

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1           **Claim 1 (currently amended):** Work piece coated with  
2        a system of film layers comprising at least one film  
3        composed of  $(Al_yCr_{1-y})X$ , where X = N, C, B, CN, BN, CBN, NO,  
4        CO, BO, CNO, BNO or CBNO and  $0.2 \leq y < 0.7$   $0.66 \leq y \leq 0.695$ ,  
5        with the composition within said  $(Al_yCr_{1-y})X$  film being  
6        either essentially constant or varying over the thickness  
7        of the  $(Al_yCr_{1-y})X$  film continually or in steps, said  $(Al_yCr_{1-y})X$  film having a cubic crystal structure and said work  
8        piece constituting one of the following tools:-  
9        specifically a milling tool, [[of]] a hob, (spherical-head)  
10      ball nose mill, planar or profiling cutter, a clearing  
11      tool, reamer, (indexable tip) insert for turning and  
12      milling, a die or an injection mold.

1           **Claim 2 (currently amended):** Work piece coated with  
2        a system of film layers comprising at least one film  
3        composed of  $(Al_yCr_{1-y})X$ , where X = N, C, B, CN, BN, CBN, NO,  
4        CO, BO, CNO, BNO or CBNO and  $0.2 \leq y < 0.7$   $0.66 \leq y \leq 0.695$ ,  
5        with the composition within said  $(Al_yCr_{1-y})X$  film being  
6        either essentially constant or varying over the thickness  
7        of the  $(Al_yCr_{1-y})X$  film continually or in steps, said  $(Al_yCr_{1-y})X$ .

8        $\chi$ X film having a cubic crystal structure and said work  
9       piece constituting a machine component.

1           **Claim 3 (previously presented):** Machine component as  
2       in claim 2, wherein said component is a sealing washer, a  
3       gear, a piston, a part of a valve drive or a needle for an  
4       injection nozzle, or that it is toothed.

1           **Claim 4 (previously presented):** Tool as in claim 1,  
2       wherein the tool is a forming tool of an upper die, a  
3       bottom swage, a drawing die, an ejector core or a thread  
4       former.

1           **Claim 5 (previously presented):** Tool as in claim 1,  
2       wherein the tool is an injection-molding tool for producing  
3       a molded plastic part or a data storage medium.

1           **Claim 6 (previously presented):** Tool as in claim 1,  
2       wherein the tool features a CBN or Cermet base unit or that  
3       the tool is a CBN or Cermet (indexable tip) insert.

1           **Claim 7 (canceled)**

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2           **Claim 8 (previously presented):** Work piece as in one  
3       of the claims 1-6, wherein a rate of wear of the  $(Al_yCr_{1-y})_X$   
4       film is less than or equal to  $1.5m^3m^{-1}N^{-1}10^{-15}$ .

1           **Claim 9 (previously presented):** Work piece as in one  
2       of claims 1-6, wherein a Vickers pyramid hardness of the  
3        $(Al_yCr_{1-y})_X$  film is 2300 to 3100.

1           **Claim 10 (previously presented):** Work piece as in one  
2       of claims 1-6, wherein a layer structure of the  $(Al_yCr_{1-y})_X$   
3       film is microcrystalline with an average grain size of 20  
4       to 120 nm.

1           **Claim 11 (previously presented):** Work piece as in one  
2       of claims 1-6, wherein a bonding layer is applied between  
3       the work piece and the  $(Al_yCr_{1-y})_X$  film.

1           **Claim 12 (previously presented):** Work piece as in  
2       claim 11, wherein said bonding layer encompasses at least  
3       one of the metals of group IV, V or subgroup VI, or  
4       aluminum.

1           **Claim 13 (previously presented):** Work piece as in  
2       claim 11, wherein said bonding layer includes at least one  
3       nitride, carbide or carbonitride of one or several metals  
4       of subgroup IV, V or VI.

1           **Claim 14 (previously presented):** Work piece as in  
2       claim 11, wherein at least one  $(Al_yCr_{1-y})_X$  film is

3        additionally coated with a slip layer.

1           **Claim 15 (currently amended):** Work piece as in claim  
2       14, wherein said slip layer encompasses a carbide of at  
3       least one metal with dispersed carbon, MeC/C wherein Me is  
4       selected from among group IVb, Vb and VIb metals and  
5       silicon, a diamond-like carbon layer, a Si- or metallic  
6       diamond-like carbon layer, a MoS<sub>x</sub>, a WS<sub>x</sub> or a  
7       titanium-containing MoS<sub>x</sub> or MoW<sub>x</sub> layer.

1           **Claim 16 (withdrawn):** PVD process for depositing at  
2       least one (Al<sub>y</sub>Cr<sub>1-y</sub>)X film on a work piece, where X = N, C,  
3       B, CN, BN, CBN, NO, CO, BO, CNO, BNO, CBNO and ~~0.2 < y < 0.7~~  
4       0.66 ≤ y ≤ 0.695, comprising the steps of installing at  
5       least one work piece in a vacuum coating system with at  
6       least one Al<sub>z</sub>Cr<sub>1-z</sub> target, where ~~0.25 ≤ z < 0.75~~, operating  
7       said system at a pressure of 0.5 to 8 Pa with the addition  
8       of a nitrogen-, carbon- boron- or oxygen-containing  
9       reactive gas and applying on the work piece of a substrate  
10      voltage of between -3 and -150V, as an arc or sputtering  
11      source, wherein the constituent composition within the said  
12      at least one (Al<sub>y</sub>Cr<sub>1-y</sub>)X film is either essentially constant  
13      or varies either continuously or in steps over the  
14      thickness of the film, said at least one (Al<sub>y</sub>Cr<sub>1-y</sub>)X film  
15      having a cubic crystal structure, and said work piece being  
16      selected from among the work pieces recited in either of

17       claims 1 or 2.

1           **Claim 17 (withdrawn):** PVD process as in claim 16,  
2       wherein X = N and the reactive gas is nitrogen or oxygen.

1           **Claim 18 (withdrawn):** PVD process as in claim 16 or  
2       17, wherein the substrate voltage is pulsed.

1           **Claim 19 (withdrawn):** PVD process as in claim 16 or  
2       17, wherein the  $\text{Al}_z\text{Cr}_{1-z}$  target is a powder-metallurgically  
3       produced target.

1           **Claim 20 (withdrawn):** PVD process as in claim 19,  
2       wherein the target is produced by cold-pressing starting  
3       material in powder form with repeated subsequent reshaping,  
4       at temperatures under 660°C, densification by fluxing and  
5       cold fusion, and transformation into its final state with  
6       a theoretical density at about 96 to 100%.

1           **Claim 21 (withdrawn):** Process comprising the steps of  
2       machining a material with a tool recited in claim 1,  
3       wherein said machining using said tool is performed without  
4       the addition of lubricants or cooling agents for machining  
5       a material, wherein the process involves the use of a tool  
6       per claim 1.

1           **Claim 22 (canceled)**

1           **Claim 23 (withdrawn):** Process as in claim 21-~~or~~-22,  
2        wherein the tool is a hard-metal or HSS hob (cutter) and  
3        the cutting speed is 60 to 450 m/min.

1           **Claim 24 (withdrawn):** Process as in claim 21-~~or~~-22,  
2        wherein the tool is an end-milling, (spherical-head)  
3        ball-nose-mill or a roughing cutter.